

Signal conditioner - MINI MCR-SL-U-I-0 - 2813512

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MCR 3-way isolating amplifier, for electrical isolation of analog signals, with screw connection, input signal: 0 V ... 10 V, output signal: 0 mA ... 20 mA

Product Description

The 6.2 mm wide standard signal 3-way isolating amplifier MINI MCR-SL-U-I-... is used for electrical isolation, conversion, amplification and filtering of standard signals.

On the input side, 0...10 V are measured, and made available at the module output as a galvanically isolated 0...20 mA, or 4...20 mA signal. Power (19.2 V DC to 30 V DC) can be supplied through connection terminal blocks on the modules or in conjunction with the DIN rail connector.

Your advantages

- Power supply possible via the foot element (TBUS)
- Low power consumption
- Entry-level alternative to configurable signal conditioners
- Highly-compact isolating amplifier for electrical isolation, conversion, amplification, and filtering of standard analog signals
- 3-way isolation
- Fixed signal combinations



Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4046356100656 |

Technical data

Note

| | |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

Dimensions

| | |
|--------|---------|
| Width | 6.2 mm |
| Height | 93.1 mm |

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Dimensions

| | |
|-------|----------|
| Depth | 102.5 mm |
|-------|----------|

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -20 °C ... 65 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Maximum altitude | ≤ 2000 m |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |
| Degree of protection | IP20 |
| Noise immunity | EN 61000-6-2 When being exposed to interference, there may be minimal deviations. |

Input data

| | |
|-----------------------------------|----------------|
| Number of inputs | 1 |
| Configurable/programmable | no |
| Voltage input signal | 0 V ... 10 V |
| max. input voltage | 30 V |
| Input resistance of voltage input | approx. 100 kΩ |

Output data

| | |
|---------------------------------|----------------------------------|
| Number of outputs | 1 |
| Configurable/programmable | no |
| Current output signal | 0 mA ... 20 mA |
| Max. output current | 28 mA |
| Load/output load current output | ≤ 500 Ω |
| Ripple | < 20 mV _{PP} (at 500 Ω) |

Power supply

| | |
|--------------------------|---|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 19.2 V DC ... 30 V DC (The DIN rail bus connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715)) |
| Max. current consumption | < 28 mA |
| Power consumption | < 600 mW |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 12 mm |
| Screw thread | M3 |
| Conductor cross section solid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section AWG | 26 ... 12 |

General

| | |
|-----------------|---|
| No. of channels | 1 |
|-----------------|---|

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General

| | |
|--|--|
| Maximum transmission error | ≤ 0.1 % (of final value) |
| Maximum temperature coefficient | < 0.01 %/K |
| Temperature coefficient, typical | < 0.002 %/K |
| Limit frequency (3 dB) | approx. 100 Hz |
| Step response (10-90%) | approx. 3.5 ms |
| Electrical isolation | Basic insulation according to EN 61010 |
| Overvoltage category | II |
| Degree of pollution | 2 |
| Rated insulation voltage | 30 V AC |
| Test voltage, input/output/supply | 1.5 kV (50 Hz, 1 min.) |
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise emission | EN 61000-6-4 |
| Noise immunity | EN 61000-6-2 When being exposed to interference, there may be minimal deviations. |
| Color | green |
| Housing material | PBT |
| Mounting position | any |
| Assembly instructions | The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715. |
| Conformance | CE-compliant |
| ATEX | # II 3 G Ex nA IIC T4 Gc X |
| UL, USA/Canada | UL 508 Recognized |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| GL | GL EMC 2 D |
| Fire protection for rail vehicles (DIN EN 45545-2) R22 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R23 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R24 | HL 1 - HL 2 |

EMC data

| | |
|--|--------------------------|
| Designation | Electromagnetic RF field |
| Standards/regulations | EN 61000-4-3 |
| Typical deviation from the measuring range final value | 5 % |
| Designation | Fast transients (burst) |
| Standards/regulations | EN 61000-4-4 |
| Typical deviation from the measuring range final value | 5 % |
| Designation | Conducted interferences |
| Standards/regulations | EN 61000-4-6 |
| Typical deviation from the measuring range final value | 5 % |

Standards and Regulations

| | |
|-------------------------------|--------------------------------|
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise emission | EN 61000-6-4 |

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Technical data

Standards and Regulations

| | |
|--|--|
| Connection in acc. with standard | CUL |
| Standards/regulations | EN 61000-4-2 |
| Designation | Electromagnetic RF field |
| Standards/regulations | EN 61000-4-3 |
| | EN 61000-4-4 |
| | EN 61000-4-5 |
| Designation | Conducted interferences |
| Standards/regulations | EN 61000-4-6 |
| Electrical isolation | Basic insulation according to EN 61010 |
| Conformance | CE-compliant |
| ATEX | # II 3 G Ex nA IIC T4 Gc X |
| UL, USA/Canada | UL 508 Recognized |
| | Class I, Div. 2, Groups A, B, C, D T4 |
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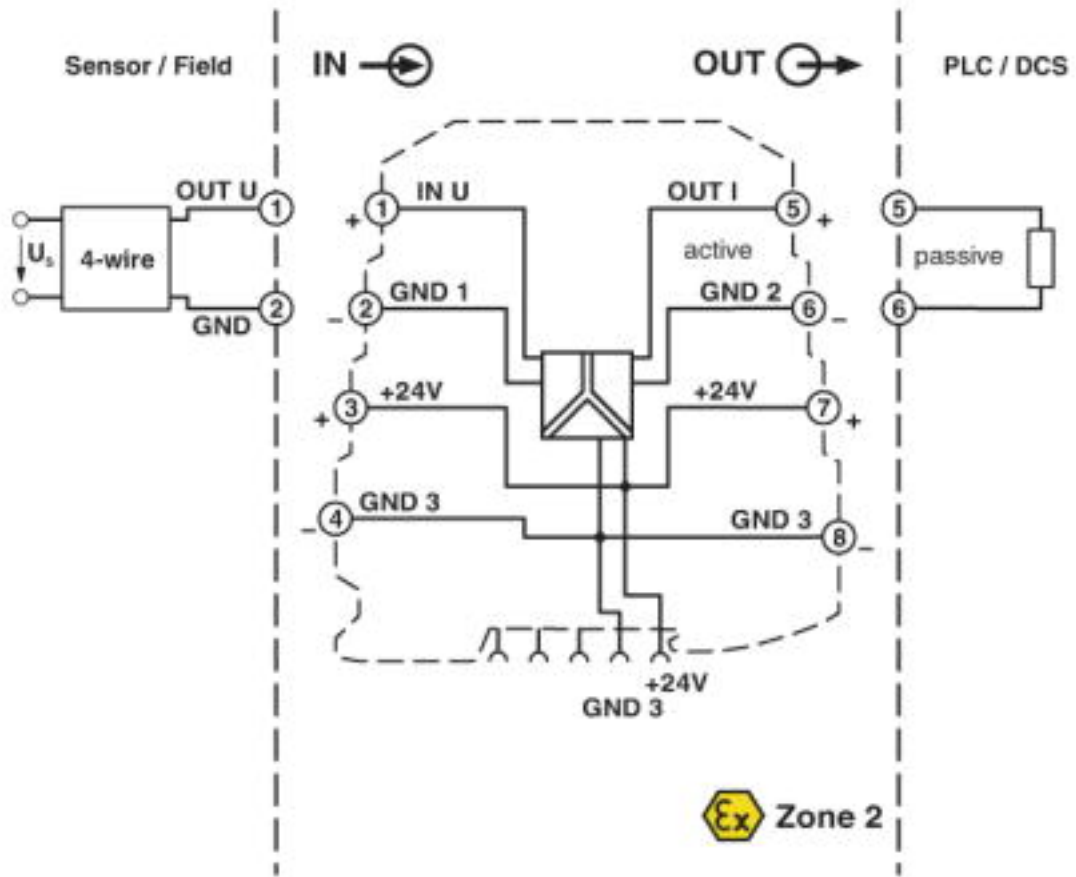
Environmental Product Compliance

| | |
|------------|---|
| | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

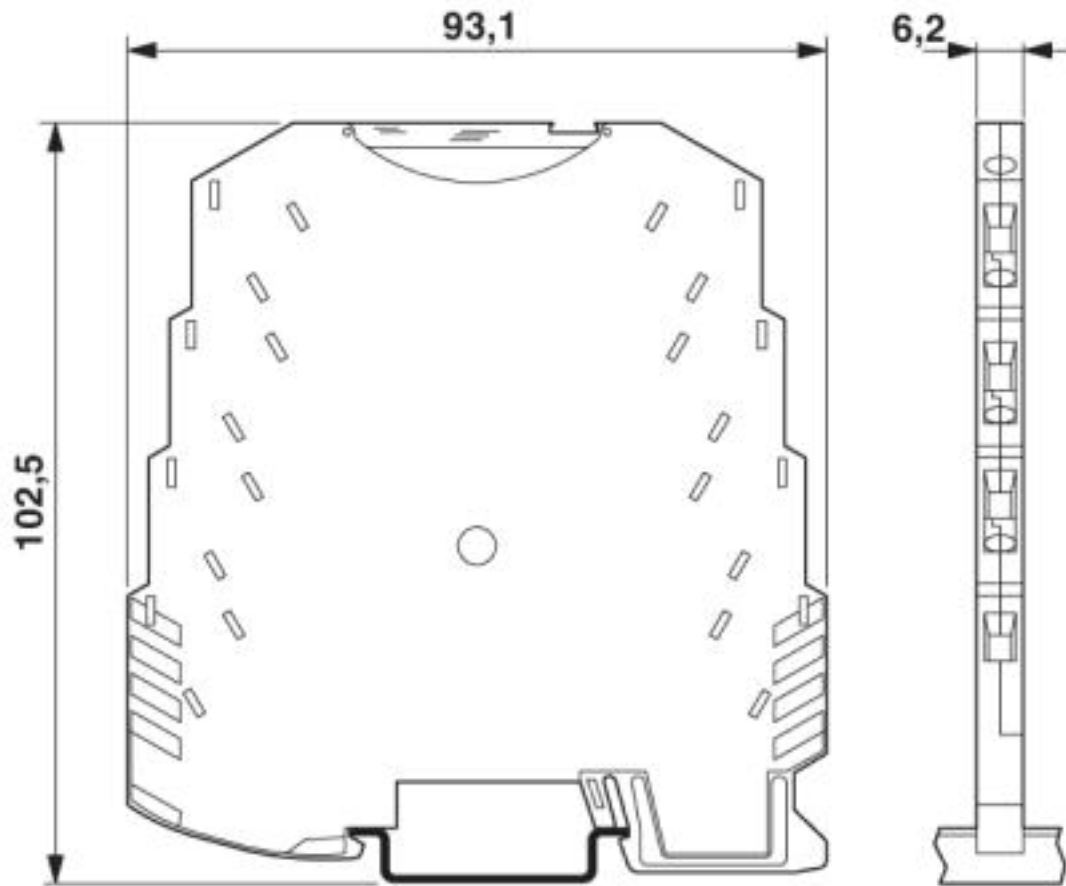
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Block diagram



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Dimensional drawing



Approvals

Approvals

Approvals

UL Recognized / cUL Recognized / DNV GL / cULus Recognized

Ex Approvals

ATEX / UL Listed / cUL Listed / EAC Ex / cULus Listed

Approval details

UL Recognized



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 238705

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Approvals

cUL Recognized



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

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DNV GL



<https://approvalfinder.dnvgl.com/>

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